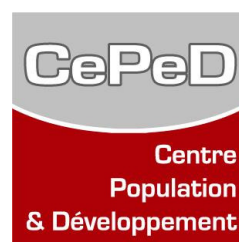




# W.P. 5 BEKONAL BUILDING AND EXCHANGING KNOWLEDGES ON NATURAL RESOURCES IN LATIN AMERICA

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This report has been edited in collaboration with Hugo  
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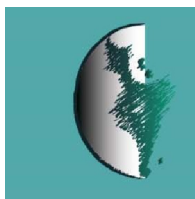
# Synthesis of results and recommendations

The main objective of WP5 *Bekonal* is to understand how “knowledges” on natural resources contribute to the issue of environmental governance. It aims to position the evolution of these knowledges in the connections between development, environment, and the evolution of categories on these forms of knowledges in Latin American countries.

The methodology of WP5 *Bekonal* follows a multidisciplinary approach, applied on a selection of critical case studies completed by a quantitative survey, following the chain of knowledges. Thus, the process of the building of knowledge on nature can be better understood, as it is encapsulated in the culture, values and institutions of the main actors. We take the local populations, and scientific actors as the main “knowledge holders”. We concentrate on processes, public representations, and practices.

Important background questions were: how can the duality knowledge-practices be translated into different cultural contexts? How can these categories be reconciled with the challenges of different worldviews or even radical alterity? Do structural inequalities really allow for room for dialogue on equal epistemic terms?

WP5 *Bekonal* has developed an analytic framework (Deliverable D.5.1) to identify the links between different forms of knowledge on natural resources. Next, we produced four Research Reports, which were presented in consortium meetings, and afterwards edited as Working Papers and presented to the EU. The first Research Report (D.5.2) “Dynamic processes in the use of natural resources and food systems by indigenous and mestizo communities in Mexico and Brazil” describes and explains indigenous “knowledge(s)” as practices and discourses of local actors immersed in a cultural context. Several comparative studies were carried out focusing on the evolution in the use of plants in farming practices, cooking, craft, diet, medicinal flora and traditional remedies in Mexico and Brazil from an anthropological perspective focusing on local knowledge. We showed how indigenous farming techniques are complex, usually adapted to the local environment, while



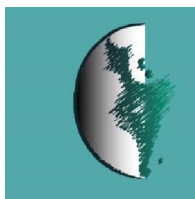
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constantly opened to innovation due to a long-term occupation of the territory and the use of networks of communication and exchange. We outlined some of these networks that allow the circulation of knowledge and biological objects. This was done partly through a further study about traditional techno-cognitive practices, specifically, curative practices, in the region of Malinalco (Mexico). We considered the healers as erudite, and took into account three aspects of great interest for the study of curative knowledges and techniques, namely: knowledge about the native flora, a curative tradition that employs almost 200 local plants used as remedies and, finally, a curative practice developed by individuals knowledgeable of the ailments suffered by the population. Traditional curative practices do not appear as essentially different, epistemologically speaking, from contemporary scientific practices; the main difference reside in the intellectual technologies they mobilize. The representation of the relational maps made about the knowledges possessed by the healers, shows the *curandería* as a synthetic phenomenon that reunites knowledges and practices about remedies, ailments and treatments.

Traditional knowledge(s) cannot be understood, and not even properly described, without a close analysis of the roles played by scientific and intermediary actors. Processing actors, market actors, think tanks, NGOs, businesses, public organizations and other actors must be incorporated in the analysis, together with the “translations” that are part of these processes. The second Research Report (D.5.3) “Saberes científicos y saberes tradicionales en la gobernanza ambiental: La agroecología como práctica híbrida” followed the circulation patterns between traditional and scientific knowledge in the merchandising and processing of natural resources. It focused on intermediate actors in a series of case studies. Agro-ecology was taken as a dialogue space between scientific knowledge, peasants’ knowledge and political projects in three case studies. These cases studies covered the introduction of organic agriculture in Brazil (in the agricultural belt around Sao Paulo), a participatory project in agro-ecology in Mexico (in the Costa Chica region, Oaxaca State), and an analysis of a governmental program on preservation of agro-biodiversity in Mexico (conservation of local corn through the PROMAC (*Programa de Maíces Criollos/ Program for the Conservation of Creole Corn*)). These in-depth studies allowed us to show current forms of hybridization, exchange and translation between scientific knowledge and traditional knowledges. Interestingly, while agro-ecology has the status of a scientific discipline, it also incorporates a series of practices promoted by collective actors, public policies and market demands in a space of more or less asymmetric negotiations between groups of actors (peasants, local communities, scientists, NGOs, stakeholders, political organizations, market actors, etc.) This work was completed by two Master dissertations about



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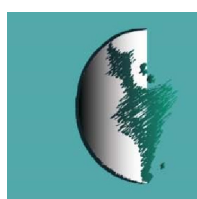
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the integration process of traditional medicinal practices in the public health policy in Mexico. These works focused, first, on analyzing the governmental actions and secondly on their application in the "Hospitales mixtos" in the Puebla region (Mexico). Thus, the context of governance may complexify the distinction between scientific and traditional knowledge. This tends to be the case, most notably, when knowledge(s) are included in political and economic decision-making processes to build up new norms and institutions.

WP5 *Bekonal* also concentrated on discourses of the last forty years about societal issues, opportunities and challenges generated by the natural sciences. We focused mainly on scientific communities as a category of stakeholders thanks to a long term bibliometric analysis of scientific research on governance and the environment. This analysis was completed by two case studies focusing on a Mexican governmental project on maize (*Proyecto global de los maíces nativos*); two Ph.D. dissertations, about the history of the relationship between Mexican governments and special interests about medicinal plants; as well as a network analysis of scientific collaborations on the study of natural resources in Latin America and their influence on the dynamics of scientific research. Bibliometrics facilitated to make inferences on a very large corpus, diminishing bias (linked to personal preferences), while allowing to observe the general evolution in trends of the key concepts and terminology used in ENGOV ( *Nature, Environment, Sustainable development, Governance, indigenous knowledge, traditional knowledge*, etc.) A comparative dimension was added by comparing the results of this analysis to the patterns found in Latin American scientific journals. The evolution of keywords was depicted through vivid graphs that can be accessed and search thoroughly. For example, the notion of "Indigenous knowledge" was launched around 1980 by engaged agronomists working in development projects as they reassess farmers' know-how. Starting in the 1990s, the notion acquires a more militant meaning that highlights the dependency and marginalization in which "indigenous" populations are kept. Today, it is far from certain that a true debate on the plurality of forms of knowledge is taking place.

The absence of such public reflection on the question of different forms of knowledge was highlighted by the brief ethnography on the "*Proyecto Global de los Maíces nativos*" (PGMN) (Mexico, 2006-2010), a Mexican ministerial project on maize related to the conservation of maize. The results of this fieldwork emphasize that the knowledge produced has been formatted by the categorization and segmentation of political ideas concerning maize. Research on this area is assigned a merely utilitarian function of conservation and improvement of varieties. Maize is treated as a mere asset. "Hard" science appears in opposition to social and human sciences; meta-discourse is opposed to the technical operations of data collection; "scientific" knowl-



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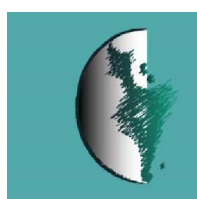
edge is presented in opposition to “traditional” knowledge. Our ethnographic study of the PGMN shows that in the absence of dialogue, “traditional” and “scientific” knowledge of a resource such as maize are political and sociological constructs, and that this is why they cannot possibly meet. In sum, an ethnological study of projects such as the PGMN contributes to the understanding of the place assigned to “traditional” or “indigenous” knowledge — and, conversely, to the place that is not assigned to it.

Both Ph.D. dissertations showed how Mexican governments and scientific communities institutionalized research about medicinal plants. Specific institutions were created in the early years of the end of the Spanish colonization. The opportunity appeared then, for instance, to shelter an endemic plant which was traditionally used by native populations. This allowed the development of a new field of research, Natural Products Chemistry, focusing on steroids.

A final case study investigated the networks of collaboration in Latin America and Europe on the field of natural resources. By focusing on the 7th European Framework Programme, the aim was to identify patterns of collaboration and direction of research in relation to funding. This permitted to highlight the main areas of research and the main disciplines involved in these networks. The structure of collaboration also surfaced as a function of the number of projects, amount of funding, and distribution of countries. In order to answer whether funding substantially affects the direction of research, the analysis of scientific publications facilitated the description of a number of theme related trajectories followed by researchers involved in this field.

All these case studies and the members of the Project are presented on the web page dedicated especially to WP5 (<http://bekonal.hypotheses.org/presentation>). All documents (internal meeting reports, WP5 fieldwork reports) produced by WP5 were circulated on the internal part for the use of the international research team. Another open space allows information about knowledge and the environment to be diffused to a large audience: a series of open-access publications were uploaded on biblioteca virtual de la Clacso. In addition, WP5 *Bekonal* took part in several other dissemination activities: A research database: *About Knowledge(s) and Nature in Latin America* (D.5.4); a Policy Brief; a newsletter: participation in ENGOV online course with CLACSO; organization of a seminar series on exchanges of knowledges (“Circulation des savoirs”). etc.

To sum up, WP5 *Bekonal* has examined the involvement of different knowledge holders in the production of nature. Through the study of the use of resources of nature by these knowledge holders in the different cases, it can be seen:



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1. how different forms of knowledge are carried out in relation to their inclusion in political and economic games and
2. their participation to decision-making and the development of new norms and institutions in Mexico and Brazil.

As part of the main recommendations issued in the context of a joint policy brief with the WP6 on *Analyzing poverty and sustainable development in Latin America*, it was advised that:

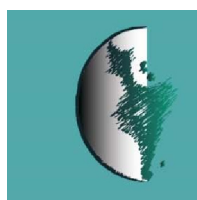
1. Sustainable use of ecosystems requires the inclusion of social actors that interact with resources of nature.
2. For this purpose, rationality, location within the productive chain, producer or destroyer of biodiversity status and specially knowledge within current technological evolution has to be known for each one of the actors.
3. It is needed that those social actors that use ecosystems as their way of life, particularly native people and peasants, take part in each and every stage of sustainable development policy.

Part of the results of *Bekonal* have been the object of a summary chapter inside the edited volume prepared by the ENGOV team. “Los saberes autóctonos en México. Entre ambientalismo y desarrollo rural”. This chapter has been translated into Spanish, Portuguese, and English.

Apart from helping to settle a collaboration network between Europe and Latin America on the issue of the dialogue of knowledges and environmental governance, further impact of *Bekonal* has been to open new lines of research. Among others, to name a few: the role of agroecology on the issue of sustainable development; power relation between different epistemic communities and climate questions; food sovereignty in relation to organic agriculture and slow food; new questions on new actors in sustainable development projects, etc.

Some topics studied by researchers members of *Bekonal* have been developed in a number of research projects. For instance, this is the case with the programme Senglo (“Local knowledges, globalization, and the environment”) coordinated by Rebeca de Gortari and Mina Kleiche-Dray at the UNAM (Mexico) and the IRD (France). Julien Blanc has also participated at the call for projects of the Brazilian Capes-Cofecub. He has proposed a collaboration project on environmental governance in Brazil. “Commun’envi: communities facing challenges and environmental causes in sustainable food systems” is





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also the name of a project proposal coordinated by Florian Charvolin where the members of *Bekonal* have been invited to participate. Additionally, a Ph.D. dissertation on technology transfer, autochthonous knowledges and rural development in Mexico (Université de Paris-V, ED180, 2014-2017) is being prepared by Rodrigo Castañeda Valle under the supervision of Etienne Gérard and Mina Kleiche-Dray.

Finally, a special issue of the academic journal *Autrepart* is being prepared under the title *Autochthonous Knowledges and Development*. Appearing in 2016, this special issue has attracted already much attention from scientific colleagues working on related topics. This special issue will deal with a broader range of topics and a larger number of geographical areas (covering the Caribbean, Africa, Asia, and the Pacific). In addition, the members of *Bekonal* will keep publishing the results of their studies until 2017.

## Short scientific report

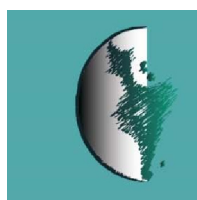


Photograph by Claudia Lopez

The objective of WP5 was to clarify the building and exchanging of knowledges on natural resources in Latin America. We consider these knowledges to be encapsulated in the culture, values and institutions of several actors (the “knowledges” holders). We have divided the study of these actors in four tasks

- indigenous “knowledges” ; (task 1)
- the building of scientific knowledges since 1970 (task 2)
- merchandization and process(ing) of natural resources (task 3)
- intermediary actors (task 4)

In the first period of the Work Package, IRD’s team selected relevant plants, actors, and spaces (regions and institutions) related with the objectives of the WP5 and more generally with the issue of environmental governance. Bibliography analysis was performed and several meetings with invited French and Latin-American specialists took place. Thus, the first case



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studies were selected and a precise timetable was set. Related to tasks 1, 3, and 4 several complementary, comparative studies were started in Oaxaca state (Mexico), Rio Negro, and Nordeste area (Brazil) about the evolution of farming practices and diet in relation to environmental governance and actors' networks. Concerning task 2, many preliminary bibliometric studies were carried to build up the most relevant method to analyze the evolution of scientific knowledge on natural resources through scientific production (papers and patterns).

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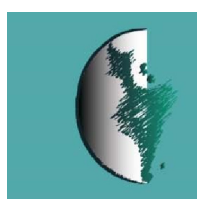
In the second period, our team worked on common issues linking the whole chain of actors. (Local, indigenous actors, scientists, intermediary actors in merchandization and processing actors, activists, NGOs, managers, international organizations etc.) For methodological reasons, it appeared necessary to consider mainly two categories of actors "indigenous" actors and "scientific" actors, and to consider all the other relevant actors (economic actors, political actors, civil associations, etc.) as "intermediary actors".



Photograph by David Dumoulin

In order to advance in the outline of the methodology, and to identify and implement our case studies, our work took several forms:

1. The organization of several work seminars (4 key meetings held in France and Latin America, including videoconferences in order to allow a maximum number of colleagues to participate);
2. Further detection and selection of interesting natural resources, geographic and institutional spaces;



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3. Preparation of our first deliverable, presenting the background, conceptual framework and delimitation of our case studies

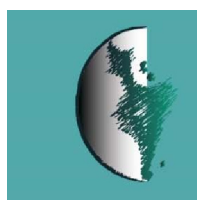
Several complementary comparative studies about the evolution of practices about medicinal plants, farming practices, cooking, craft and diet — mainly focusing on maize— were undertaken in the State of Mexico (Malinalco's area), the State of Oaxaca (Mixteca and Costa Chica areas), and in Brazil (in Rio Negro, the northeast area, and at the so called “arch of Deforestation” of the Brazilian Amazon). These studies put together several environmental issues and collected data in order to analyze them via the many networks of actors involved, particularly, from a “local knowledge” anthropological perspective. Intensive field work for each case study was carried out in Brazil and in Mexico as described in the Analytic Framework Report. A two-year master project involving a critical analysis of the institutionalization of traditional medicine and traditional practices in Mexican public health policies was also launched around this time.

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In the third period, we edited and presented to the European Union the Research Report D.5.3. “Saberes científicos y saberes tradicionales sobre lo viviente en la gobernanza económica”, about the circulation of knowledge in merchandising and processing natural resources, based on case studies outcomes. We edited the Deliverable D 5.4. “Research database: About Knowledge(s) and Nature in Latin America”. Built on the *Mendeley* environment, this research tool incorporates more than one thousand semantically tagged references on different forms of knowledge on nature in Latin America, as well as on the social and political legitimization of these forms of knowledge.

During this period we carried out studies on our second category of stakeholders: scientific communities. We were able to complete three studies on this subject:

1. A sociohistorical qualitative survey dealing with the different modalities by which Mexican scientists approach maize. This included a fieldwork on a Mexican governmental project (Proyecto global de los maíces nativos) on maize and the major factors determining how it is preserved and conserved as a national resource.
2. A network analysis of scientific collaborations on the study of natural resources in Latin America and their influence on the dynamics of scientific research.



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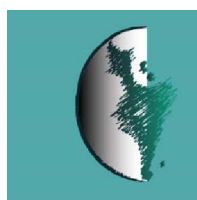
3. A long term bibliometric analysis of scientific research on governance and the environment. This bibliometric report also incorporates a comparative dimension by presenting the results of an analysis of Latin American scientific databases on these issues. The study applied data mining tools to a diverse set of articles from major journals in order to investigate the evolution in the use and meaning of scientific keywords over time. This evolution was depicted through vivid graphs that can now be accessed on the WP5 Blog, and can be searched thoroughly by any stakeholder.



Photograph by Isabel Georges

Two Ph.D. dissertations were completed and defended at this time. One on the social and scientific construction of a research area in Mexican science departments around steroids starting from an interest on the use of an endemic plant by indigenous populations. Another on medicinal plants and their use and institutionalization in Mexico.

Furthermore, our Working Package published several other working papers and kept on working in several dissemination activities ( a “policy brief”, a newsletter, etc.) such as the online publication of more than twenty open access articles in CLACSO Engov virtual library, the maintenance of a blog



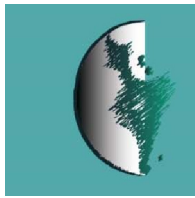
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related to the topics of the project (*Bekonal hypotheses*) and the organization of a seminar series on exchanges of different forms of knowledge (*“Circulation des savoirs”*).

At the beginning of 2015 we organized a meeting in Paris (with the use of telecommunications application software to connect with Latin America in the afternoon) to assess and review the results linked to the project. An aim of the meeting was also to brainstorm ideas concerning dissemination of research results, future avenues of research, as well as possible collaborations. In the remaining of 2015 and 2016, several other publications – having as input some of the data collected during the *Bekonal* project – were finalized.



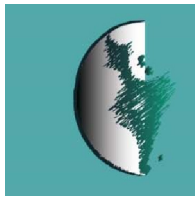


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### Scientific Publications

#### Working papers, Research Reports and Other Reports

- Integrating traditional and scientific knowledge(s) for an equitable and sustainable use of natural resources | Mina Kleiche-Dray: ENGOV Analytical Framework Report D.5.1., 31 p. (2012)
- Dynamic processes in the use of natural resources and food systems by indigenous and mestizo communities in Mexico and Brazil | Esther Katz, Mina Kleiche-Dray, Frédérique Jankowski & Claudia Lopez: Engov Working Paper Series No.3, 43 p. (2013)
- Saberes científicos y saberes tradicionales en la gobernanza ambiental: La agroecología como práctica híbrida | Jean Foyer, Frederique Jankowski, Julien Blanc, Isabel Georges & Mina Kleiche-Dray: Engov Working Paper Series No.14, 78 p. (2014)
- Conocimiento, poder y alimentación en la mixteca Oaxaqueña: tareas para la gobernanza ambiental | Elena Lazos Chavero: Engov WP5 Reports, 39 p. (2012)
- Agro-écologie, gouvernance environnementale et dialogue des savoirs dans l'état de Oaxaca (Mexique) | Frédérique Jankowski: Engov WP5 Reports, 77 p. (2012)
- Prácticas y representaciones sobre uso, manejo y gestión del medio ambiente entre los Ka'apor de la amazonía oriental brasileña | Claudia López: Engov WP5 Reports, 29 p. (2012)
- Prácticas curativas en las "Huertas de Malinalco": los saberes integrados sobre plantas, padecimientos y curación tradicionales | Laura María Morales Navarro & Antonio Arellano Hernández : Engov WP5 Reports, 58 p. (2012)
- Research database: About Knowledge(s) and Nature in Latin America | Mina Kleiche-Dray, Hugo Viciano, Frédérique Jankowski & Laurence Goury: Engov Deliverable D 5.4. (2014)



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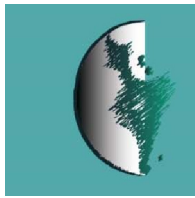
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- Political and sociological constructions of knowledge of maize seen in the prism of the “Global Project on primitive maize varieties” (Mexico, 2006-2010) | Etienne Gérard: Engov WP5 Reports, 54 p. (2014)
- La construction politique et sociologique des savoirs sur le maïs au prisme du “Projet global sur les maïs primitifs” (Mexique, 2006-2010) | Etienne Gérard: Engov WP5 Reports, 54 p. (2014)
- El rol de la colaboracion cientifica en la definicion y la dinamica de la investigacion sobre Recursos Naturales en America Latina. Analisis de los proyectos de colaboracion del septimo programa marco (FP7) | Luciano Levin: Engov WP5 Reports, 56 p. (2014)
- Les mots-clés d’Engov: Origine et variations de sens | Roland Waast & Pier-Luigi Ross: Engov WP5 Reports, 127 p. (2014)
- Origins and shifts in meaning of Engov keywords | Roland Waast & Pier-Luigi Ross: Engov WP5 Reports, 146 p. (2014)

### Academic Articles

- No greens in the forest? Note on the limited consumption of greens in the Amazon | Esther Katz, Claudia Lopez et al: Acta Societatis Botanicorum Poloniae 81(4): p. 283–293 (2012)
- L’environnementalisme social mexicain: une version endémique de l’écologie politique | Jean Foyer et David Dumoulin: Écologie & Politique n° 46, p. 83-94 (2013)
- L’émergence de l’agriculture biologique au Brésil: une aubaine pour l’agriculture familiale? Le cas de producteurs de la ceinture verte de la ville de São Paulo | Isabel Georges & Julien Blanc: Revue Autrepart No. 64. p.121-137 (2013)
- Odeurs et saveurs dans deux sociétés amérindiennes | Esther Katz: in Gérald M. L. (ed) Corps sensibles. Usages et langages des sens, Presses Universitaires de Nancy, p. 209-227 (2013)
- La cuisine et sa ritualisation en pays mixtèque (Oaxaca, Mexique) | Esther Katz: Cahiers Amérique Latine, Histoire et Mémoire, n°25, (2013)



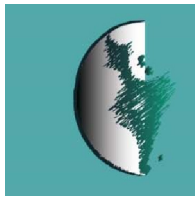


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- Sabritas en el pueblo, totopos en el Norte. Dinámicas alimentarias y migración en la Mixteca Alta (Oaxaca, México) | Esther Katz: in F.X. Medina (ed), Alimentación y migraciones en Iberoamérica, Barcelona, Editorial UOC (Universitat Oberta de Catalunya), colección Ars Alimentària, p.67-90 (2014)
- Prácticas Curativas en Malinalco, México: Los Saberes Integrados sobre Plantas, Padecimientos y Curación Tradicionales Morales | Laura María Navarro: in P. Kreimer, H. Vesuri, L. Velho y A. Arellano. Perspectivas latinoamericanas en el Estudio Social de la Ciencia, la Tecnología y la Sociedad. p.282-295 (2014)
- Ver su riqueza en los maíces: un panorama de las iniciativas de conservación de maíces criollos en México | Jean Foyer: Archive ouverte HAL (2014)
- La diffusion de savoirs agro-écologiques dans l'état de Oaxaca (Mexique) | Frédérique Jankowski: Révue d'Antropologie des connaissances Vol. 8, No.3, p. 619-641 (2014)
- Petite agriculture, changements social et modernisation écologique au Brésil | Julien Blanc: In Aurélie Cardona, F. Chrétien , B. Leroux, F. Rippol et D. Thivet (Coord) Dynamiques des agriculture Biologique: effets de contexte et appropriation: Sciences en Partage (QUAE/EDUCAGRI), p. 134-149 (2014)
- The exclusion of indigenous traditional medicine in the higher education: the case of traditional medicine and the Mexican medical education | Susana Guzmán-Rosas Mina Kleiche-Dray, Carlos Zolla & Ernesto Suaste-Gómez: Creative Education, 2015, 6 (9), p. 867-879.
- The Scientific Impact of Mexican Steroid Research 1935-1965: A bibliometric and Historiographic Approach | Hernandez-Garcia, Y., Chamizo, J.A., Kleiche-Dray, M. and Russell J.M: in Journal of the Association for Information Science and Technology, 20 p. (2015)
- Contribución y límites del programa colonialidad/decolonialidad en el análisis de los saberes tradicionales | Mina Kleiche-Dray: Voces En El Fénix, 43, p. 116-125. ISSN 1853-8819 (2015)



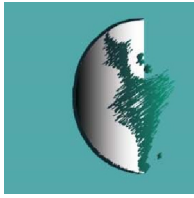
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- Los saberes autóctonos entre seguridad alimentaria y ambientalismo: nuevos desafíos para los proyectos de desarrollo rural en la Mixteca oaxaqueña (México) | Mina Kleiche-Dray & Roland Waast, In : Castro F. de (coord.), Hogenboom B. (coord.), Baud M. (coord.) Gobernanza ambiental en América Latina. Buenos Aires : CLACSO, p. 105-133. (2015)
- Os saberes autóctones no México: Entre ambientalismo e desenvolvimento rural | Mina Kleiche-Dray & Roland Waast, In : Castro F. de (coord.), Hogenboom B. (coord.), Baud M. (coord.) Governança ambiental na América Latina. Buenos Aires : CLACSO, p. 105-133. (2015)
- Cultural diversity and educationally backward: the case of Mexican indigenous population | Carolina Guzmán-Rosas: Creative Education, Volumen 6, Número 15, p. 1650-1666. (2015)
- Ethnic minorities and social inequities: a diagnosis about the Mexican indigenous population. | Carolina Guzmán-Rosas: Open Journal of Social Sciences, Volumen 3, Número 8, pp. 20-34. (2015)
- The scientific institutionalization of indigenous knowledge in Mexico: A historical analysis of the Medical and Surgical Academy of Puebla de los Ángeles. | Carolina Guzmán-Rosas: Open Journal of Social Sciences, Volumen 3, Número 7, pp. 283-292. (2015)
- Indigenous knowledge in Mexico between environmentalism and rural development. A case of study from Mexico. | Mina Kleiche-Dray & Roland Waast: Palgrave (to be published)

### Main Scientific Presentations

- Est-ce que les savoirs importent ? Rendre la conservation de l'agrobiodiversité mexicaine gouvernable | Jean Foyer: Congrès de l'Association Française de Sciences Politiques, Section thématique 56 "Mises en politique de la biodiversité". Aix en Provence, France, 24th June (2015)
- Soberanía y seguridad alimentaria, saberes tradicionales y gobernanza ambiental en América Latina | Mina Kleiche-Dray (coord.), Elena Lazos Chavero, Claudia López, Jean Foyer, Gloria Baigorrotegui, Héctor

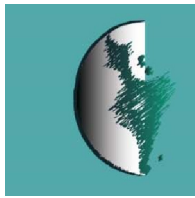


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Sejenovich, Barbara Göbel: Special Academic Session at the International Conference “Gobernanza y Justicia Ambiental en América Latina y el Caribe: Conflictos, Retos y Oportunidades”. Ciudad del Saber, Panamá, 11th February (2015)

- Les savoirs locaux relatifs à la nature à l’épreuve de la transmission institutionnelle en Amérique Latine | Frédérique Jankowski et S. Lewandowski in “Savoirs naturalistes traditionnels: l’innovation permanente” Maison des Sciences de l’Homme, Montpellier, 15th-16th December (2014)
- Emigration and transmission of knowledge in the Mixtec highlands — Esther Katz, Poster in 14th International Congress of Ethnobiology, Bhumthan, Bhoutan, 5th June (2014)
- Indigenous food systems in Brazil: marginalization or model for the future? | Esther Katz in IUAES, Sustainably solving the causes and consequences of the global food crisis: new roles, multidecade challenges and expanded opportunities for anthropologists to provide significant aid, Chiba (Tokyo), 17th Mai (2014)
- Some epistemological and political dimensions of different kinds of knowledge integration – Diffusion of agro-ecological knowledge for the socio-ecological resilience in the state of Oaxaca (Mexico) | Frédérique Jankowski in Conférence internationale Resilience 2014, Montpellier, 4-8th may (2014)
- Approche socio-cognitive de la mise en dialogue de savoirs scientifiques et paysans. L’exemple d’un projet d’agro-écologie dans l’état de Oaxaca (Mexique) | Frédérique Jankowski in Séminaire Circulation des savoirs au prisme de l’anthropologie de la communication (coord. M. Kleiche-Dray, M.Quet & D.Dumoulin), 17th October (2013)
- Curative Practices in Malinalco, Mexico : Plants, aliments and traditional Remedies —Antonio Arellano in 4S Annual Meeting in San Diego, 9-12th October (2013)
- Echanges des savoirs en milieu rural: vers l’introduction du bio au Mexique | Rebeca de Gortari in “Gobernanza ambiental y saberes”, Reconfiguration des savoirs et des pratiques sur les Ressources naturelles au



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Mexique in Séminaire Circulation des savoirs (coord. Kleiche-Dray, M., Quet, M. & Dumoulin Kervran D.), 4th October (2013)

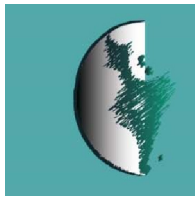
- L'ethnobotanique mexicaine mobilisée: Usages pratiques et politiques d'une science au temps de l'écologie politique | David Dumoulin in Séminaire Circulation des savoirs (coord. Kleiche-Dray, M., Quet, M. & Dumoulin Kervran D.) 4th October (2013)
- Conocimiento y uso de los hongos en una comunidad mixteca de Oaxaca | Esther Katz in 2° Seminario Internacional de Etnomicrología, Oaxaca, México 6th November (2013)
- Coordination du Symposium 133 - Pueblos indígenas, territorio, recursos naturales y alimentación | Esther Katz & L. Eloy, 1° Congreso Internacional de Pueblos Indígenas de América Latina (CIPIAL), Oaxaca, Mexique 30th November (2013)
- Hybridité des savoirs dans la gestion concertée de la biodiversité — Frédérique Jankowski in "Workshop: L'Homme, demain" (GDR, EVOL-POP), Toulouse, 21st June (2012)

### Ph.D. Dissertations

- Plantas medicinales: tradición indígena y construcción de saberes en la ciencia mexicana | Susana Carolina Guzmán Rosas (2014) in "Desarrollo de la ciencia y la tecnología para la Sociedad (DCTS)" - Cinvestav, Mexico, 28th November 2014 under the supervision of Kleiche-Dray, M (IRD/Ceped/Ifris) & Fabián F. Fernández Luqueño (Cinvestav)
- Construcción de saberes científicos en torno a los Recursos Naturales Vegetales en América Latina: caso de las Sapogeninas Esteroides | Yoscelina Hernandez Garcia (2014) 28th July 2014 under the supervision of Kleiche-Dray, M (IRD/Ceped/Ifris) & Chamizo, J.A. (Facultad de Química, Universidad Nacional Autónoma de México, UNAM)

### Master Dissertations

- Médecine Traditionnelle et Politiques Publiques de Santé au Mexique | Jessica Benguigui Master Pro M1 (Master Pro. Expertise en Pop-



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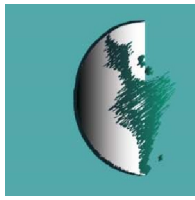
ulation et Développement, Paris V) under the supervision of Gérard, E. (IRD/ceped), Antonio Areallano (UAEM), and Kleiche-Dray, M. (IRD/ceped/ifris) (2013)

- Segurança alimentar nas escolas indígenas do centro Willimon da terra indígena Serra Raposa do Sol (Roraima) | Zelandes A. Oliveira, Professional Master in Sustainable Development (dir. Katz, E.), Brasília, CDS-UnB (2013)
- Diversidade e origem das plantas alimentares e a participação dos jovens indígenas nas atividades das roças no alto Rio Negro (Amazonas) | Silva, Franklin P. E. Professional Master in Sustainable Development (dir. Katz, E.), Brasília, CDS-UnB (2013)
- L'intégration politique d'une pratique culturelle de santé: le cas des sages-femmes traditionnelles dans les hôpitaux intégraux avec médecine traditionnelle de Puebla, Mexique | Jessica Benguigui Master Pro M2 (Master Pro. Expertise en Population et Développement, Paris V) under the supervision of Gérard, E. (IRD/ceped) et Kleiche-Dray, M. (IRD/ceped/ifris) (2014)

### Public Dissemination

- Gobernanza ambiental y actores sociales: Hacia la articulación de saberes múltiples y diversos | Mina Kleiche-Dray & Hector Sejenovich: Engov Policy Brief No.2
- Conflictos, diálogos de saberes y gobernanza ambiental | ENGOV Newsletter

*Bekonal* is a work package of the European program ENGOV, *Environmental Governance in Latin America and the Caribbean: Developing Frameworks for Sustainable and Equitable Natural*



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*Resource Use* ([www.engov.eu](http://www.engov.eu)) (SSH-CT-2016-266710). The *Bekonal* project aims to advance socio-historical and anthropological analysis of different knowledges regarding natural resources and the environment, especially scientific knowledge and indigenous knowledge. Thus the group can provide recommendations for more equitable and sustainable governability. At the start of the project case studies were defined in Mexico and Brazil, which will promote understanding of the transformation of knowledges in the whole chain of actors: traditional/indigenous actors, scientists, intermediary actors (merchandization and process(ing) actors, activists, NGOs, managers, international organizations etc.)

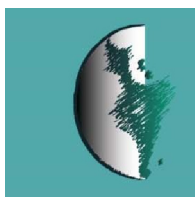
# Open Access Research

## List of documents in relation to the WP5 *Bekonal* in the Public Virtual Library of ENGOV-CLACSO

As part of the dissemination work of the WP5 *Bekonal* a number of works have been assembled to be easily referentiable in the public domain with a CC-BY-SA licence. These works were progressively uploaded to the CLACSO Virtual Library *Gobernanza Ambiental en América Latina y el Caribe*.

### Open Access Documents

1. Mina Kleiche-Dray, Analytical Framework Report D.5.1. Integrating traditional and scientific knowledge(s) for an equitable and sustainable use of natural resources  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140107123437/ENGOV\\_AFR\\_WP5\\_IRD.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140107123437/ENGOV_AFR_WP5_IRD.pdf)
2. Elena Lazos Chavero, WP 3.1. Conocimiento, poder y alimentación en la mixteca Oaxaqueña: tareas para la gobernanza ambiental  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140303092206/conocimientos\\_poder\\_alimentacion\\_mixteca.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140303092206/conocimientos_poder_alimentacion_mixteca.pdf)
3. Frédérique Jankowski, WP 3.2. Agro-écologie, gouvernance environnementale et dialogue des savoirs dans l'état de Oaxaca (Mexique)  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140303103814/agroecologie\\_savoirs.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140303103814/agroecologie_savoirs.pdf)

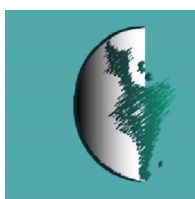


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4. Claudia López, WP 3.3. Prácticas y representaciones sobre uso, manejo y gestión del medio ambiente entre los Ka'apor de la amazonía oriental brasileña  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140303105700/WP5\\_3\\_3.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140303105700/WP5_3_3.pdf)
5. Laura María Morales Navarro & Antonio Arellano Hernández, WP 3.4. Prácticas curativas en las “Huertas de Malinalco”: los saberes integrados sobre plantas, padecimientos y curación tradicionales  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140411075525/curanderas\\_arellano\\_morales.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140411075525/curanderas_arellano_morales.pdf)
6. Esther Katz, WP 3. Dynamic processes in the use of natural resources and food systems by indigenous and mestizo communities in Mexico and Brazil  
[http://biblioteca.clacso.edu.ar/clacso/engov/20131210112938/WorkingPaperENG0V3\\_KatzandKleiche.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20131210112938/WorkingPaperENG0V3_KatzandKleiche.pdf)
7. Esther Katz et al., No greens in the forest? Note on the limited consumption of greens in the Amazon  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140508112743/katz\\_no\\_greens\\_in\\_the\\_forest.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140508112743/katz_no_greens_in_the_forest.pdf)
8. Esther Katz, Foodscapes, foodfields and identities in Yucatán. Review  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140508105149/review\\_foodscapes\\_katz.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140508105149/review_foodscapes_katz.pdf)
9. Esther Katz, Sabritas en el pueblo, totopos en el norte. Dinámicas alimentarias y migración en la Mixteca Alta (México)  
<http://biblioteca.clacso.edu.ar/subida/clacso/engov/20140509042424/migration.pdf>
10. Lucia Velthem & Esther Katz, A 'farinha especial': fabricação e percepção de um produto da agricultura familiar no vale do Rio Juruá, Acre  
<http://biblioteca.clacso.edu.ar/clacso/engov/20140829071911/katzindigen.pdf>

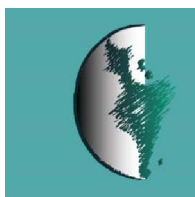




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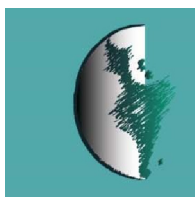
11. Jean Foyer & David Dumoulin, La durabilité en conflit: réserve naturelle vs foresterie communautaire au Mexique  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140509045223/foresterie\\_communautaire\\_foyer\\_dumoulin.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140509045223/foresterie_communautaire_foyer_dumoulin.pdf)
12. David Dumoulin & Jean Foyer, Bioprospection et savoirs indigènes au Mexique: la dynamique d'un conflit politico-technologique  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140509050833/foyer\\_dumoulin\\_bioprospection.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140509050833/foyer_dumoulin_bioprospection.pdf)
13. Jean Foyer, Les multiples politiques de la diversité bio-culturelle: entre modernités alternatives et rhétorique instrumentale  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140508115410/foyer\\_politiques\\_biodiversite\\_culturelle.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140508115410/foyer_politiques_biodiversite_culturelle.pdf)
14. Julien Blanc & Isabel Georges, L'émergence de l'agriculture biologique au Brésil : une aubaine pour l'agriculture familiale ? Le cas de producteurs de la ceinture verte de la ville de São Paulo  
[http://biblioteca.clacso.edu.ar/subida/clacso/engov/20140410052336/Georges\\_et\\_BlancPREUVES.pdf](http://biblioteca.clacso.edu.ar/subida/clacso/engov/20140410052336/Georges_et_BlancPREUVES.pdf)
15. David Dumoulin, Les savoirs locaux dans le filet des réseaux transnationaux d'ONGs: perspectives mexicaines  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140410104541/saberes\\_locales\\_ongs\\_globalizacion\\_dumoulin.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140410104541/saberes_locales_ongs_globalizacion_dumoulin.pdf)
16. Éric Léonard & Jean Foyer, De la integración nacional al desarrollo sustentable. Trayectoria nacional y producción local de la política rural en México, México, CEDRSSA, 2011, 466p.  
[http://biblioteca.clacso.edu.ar/clacso/engov/20140711020318/integracion\\_nacional\\_desarrollo\\_sustentable.pdf](http://biblioteca.clacso.edu.ar/clacso/engov/20140711020318/integracion_nacional_desarrollo_sustentable.pdf)
17. Katz, E., 2009, Alimentação indígena na América Latina : Comida invisível, comida de pobres ou patrimônio culinário ? Espaço Amerindio (Porto Alegre), 3 (1): 25-41.  
<http://biblioteca.clacso.edu.ar/clacso/engov/20140829071911/katzindigen.pdf>



## W.P. 5 BEKONAL BUILDING AND EXCHANGING KNOWLEDGES ON NATURAL RESOURCES IN LATIN AMERICA

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18. Jean Foyer, Introducción general: gobernanza económica y política en un mundo indígena en vía de transformación, in Christian Gros et Jean Foyer (dir.), *Gobernanza económica y política en pueblos indígenas de América Latina*, Quito, FLACSO-IFEA, 2010, p.23-43.  
<http://biblioteca.clacso.edu.ar/clacso/engov/20140829073916/FOYERintro.pdf>
19. Rebecca de Gortari (ed.) *Aprendizaje e innovación en microempresas rurales*.  
<http://biblioteca.clacso.edu.ar/gsd1/cgi-bin/library.cgi?c=mx/mx-032&a=d&d=IIS4365oai>
20. Rebecca de Gortari, Xochimilco como alternativa de competitividad para los orgánicos: el caso de Invernaderos Tepexomulco  
<http://biblioteca.clacso.edu.ar/clacso/engov/20140829103211/gortari2.pdf>
21. Rebeca de Gortari, *Rendrus: una red para compartir experiencias empresariales en el mundo rural*  
<http://biblioteca.clacso.edu.ar/clacso/engov/20140829105825/rendrus.pdf>
22. Geoffroy Filoche et Jean Foyer, La bioprospección en Brasil y México, ¿un nuevo Dorado?: entre la inestabilidad de las prácticas y la permanencia de las representaciones, *Mundo Amazonico*, vol.2, 2011, p.17-42  
<http://biblioteca.clacso.edu.ar/gsd1/cgi-bin/library.cgi?c=co/co-020&a=d&d=article13661oai>
23. Mina Kleiche-Dray & Roland Waast, Los saberes autóctonos entre seguridad alimentaria y ambientalismo: nuevos desafíos para los proyectos de desarrollo rural en la Mixteca oaxaqueña (México) In : Castro F. de (coord.), Hogenboom B. (coord.), Baud M. (coord.) *Gobernanza ambiental en América Latina*. Buenos Aires : CLACSO, p. 105-133. (2015)  
<http://biblioteca.clacso.edu.ar/clacso/se/20150318053457/GobernanzaAmbiental.pdf>



## W.P. 5 BEKONAL BUILDING AND EXCHANGING KNOWLEDGES ON NATURAL RESOURCES IN LATIN AMERICA

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24. Mina Kleiche-Dray & Roland Waast, Os saberes autóctones no México: Entre ambientalismo e desenvolvimento rural In : Castro F. de (coord.), Hogenboom B. (coord.), Baud M. (coord.) Gobernança ambiental na América Latina. Buenos Aires : CLACSO, p. 105-133. (2015)  
<http://biblioteca.clacso.edu.ar/clacso/se/20150930120438/GobernanzaPT.pdf>